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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,446	11/08/2001	Wolfgang Schneider	VAW-5	5083

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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 12/19/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,446

Applicant(s)

SCHNEIDER ET AL.

Examiner

Krishnan S Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 12-24 are pending in the application. Claims 1-11 are cancelled.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

^{23 are}
Claims ~~12~~ ¹²⁻²⁴ are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

^{23 are}
Claims ~~12~~ ¹²⁻²⁴ are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: Claim 12 recites a device with elements “a first filter”, “a feed disposed away from the first filter”, and “a second filter disposed away from the feed”, with out structurally connecting these elements.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 12,13,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al (US 4,928,748) in view of Dore (US 4,113,241)

Guthrie (748) teaches a two-filter device, and a method of filtering, for molten metal as in instant claim 12 and 24 (fig 4). The first filter is configured to filter by cake formation (col 6 lines 40-65) as in instant claim 13. The second filter is a porous filter medium as in instant claim 19 and is a deep bed filter as in instant claim 20 (col 6 lines 44-48).

Guthrie (748) does not teach about grain refining additives in the device as in instant claim 12 and 24, nor the type of the first filter used as in instant claim 14 and 17. Dore (241) teaches use of a ceramic foam plate (sintered) in metal melt filtration and grain refining materials (abstract, col 6 lines 10-20). It would be obvious to one of ordinary skill in the art at the time of invention to use a ceramic foam filter for the first filter, and the use of grain refining materials, which is a common practice (see Dore 241: col 1 lines 21-34) in metal melt filtering as taught by Dore (241) in the filtration device of Guthrie(748).

Guthrie (748) in view of Dore (241) is not specific on the thicknesses of the filter elements as in instant claims 15 and 16 . However, it would be obvious to one of ordinary skill in the art at the time of invention to provide sufficient thickness to have enough strength without compromising on pressure drop as taught by Guthrie (col 6 line 61 – col 7 line 9).

2. Claims 18, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie (748) in view of Dore (241) as applied to claim 12 above, and further in view of Walker (US4,834,876).

Guthrie (748) in view of Dore (241) does not teach a CVD deposited material on the filters as in instant claim 18, and is silent on whether the elements are configured to be heated. Walker (876) teaches heated filter elements for metal melt filtration, with CVD metal deposition for resistance heating of the element (col 2 lines 12-15). It would be obvious to one of ordinary skill in the art at the time of invention to use the teachings of Walker (876) to configure the filter elements to be heated for the purpose of pre-heating as taught by Guthrie (748) in view of Dore (241) (see col 6 lines 11-13 of Dore '241).

3. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie (748) in view of Dore (241) as applied to claim 12 above, and further in view of Ogiso (US 3,907,962).

Guthrie (748) in view of Dore (241) does not teach a loose-fill bed for the deep-bed filter. Ogiso (962) teaches a loose-fill bed for a molten metal filter (15-fig 1). It would be obvious to one of ordinary skill in the art at the time of invention to use the loose-fill materials as taught by Ogiso (962) in the teachings of Guthrie (748) in view of Dore (241) as alternate filter material for to absorb impurities as taught by Ogiso (962) (see col 2 lines 39-48).

Conclusion


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan S. Menon
Patent Examiner
December 16, 2002


W. L. WALKER
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